Serial No.: 10/725,823

Filed: December 1, 2003

Page : 2 of 11

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

- 1. (Currently amended) An extract from a tuber of a *Dioscorea* plant, wherein the extract is soluble in water and insoluble in an aqueous solution containing 65-90% 50%-75% ethanol between 0°C and 25°C and has an activity to enhance the proliferation of bone marrow or spleen cells.
- 2. (Original) The extract of claim 1, wherein the *Dioscorea* plant is *D. batatas* Decne, *D. alata* L., *D. pseudojaponica*, or *D. alata* L. var. *purpurea* (Roxb.) M. Pouch.
- 3. (Currently amended) The extract of claim 1, wherein the aqueous solution contains 70-80% 65%-75% ethanol.
- 4. (Original) The extract of claim 3, wherein the *Dioscorea* plant is *D. batatas* Decne, *D. alata* L., *D. pseudojaponica*, or *D. alata* L. var. *purpurea* (Roxb.) M. Pouch.
- 5. (Original) The extract of claim 3, wherein the aqueous solution contains 75% ethanol.
- 6. (Original) The extract of claim 5, wherein the *Dioscorea* plant is *D. batatas* Decne, *D. alata* L., *D. pseudojaponica*, or *D. alata* L. var. *purpurea* (Roxb.) M. Pouch.
- 7. (Original) The extract of claim 6, wherein the *Dioscorea* plant is *D. batatas* Decne.

Serial No.: 10/725,823

Filed: December 1, 2003

Page : 3 of 11

8. (Currently amended) A composition comprising an extract from a tuber of a *Dioscorea* plant and an active cytokine, wherein the composition has an activity to enhance the proliferation of bone marrow or spleen cells.

- 9. (Original) The composition of claim 8, wherein the cytokine is interleukin-2.
- 10. (Original) The composition of claim 9, wherein the *Dioscorea* plant is *D. batatas*.
- 11. (Original) The composition of claim 8, wherein the extract is soluble in water and insoluble in an aqueous solution containing 65-90% ethanol between 0°C and 25°C.
 - 12. (Original) The composition of claim 11, wherein the cytokine is interleukin-2.
- 13. (Original) The composition of claim 12, wherein the *Dioscorea* plant is *D. batatas*.
- 14. (Original) The composition of claim 11, wherein the aqueous solution contains 70-80% ethanol.
 - 15. (Original) The composition of claim 14, wherein the cytokine is interleukin-2.
- 16. (Original) The composition of claim 15, wherein the *Dioscorea* plant is *D. batatas*.
- 17. (Original) The composition of claim 14, wherein the aqueous solution contains 75% ethanol.
 - 18. (Original) The composition of claim 17, wherein the cytokine is interleukin-2.

Serial No.: 10/725,823

Filed: December 1, 2003

Page : 4 of 11

19. (Original) The composition of claim 18, wherein the *Dioscorea* plant is *D. batatas*.

- 20. (Withdrawn) A method of enhancing proliferation of bone marrow or spleen cells, the method comprising administering to a subject in need thereof an effective amount of an extract from a tuber of a *Dioscorea* plant.
- 21. (Withdrawn) The method of claim 20, wherein the extract is soluble in water and insoluble in an aqueous solution containing 65-90% ethanol between 0°C and 25°C.
- 22. (Withdrawn) The method of claim 21, wherein the *Dioscorea* plant is *D. batatas* Decne, *D. alata* L., *D. pseudojaponica*, or *D. alata* L. var. *purpurea* (Roxb.) M. Pouch.
- 23. (Withdrawn) The method of claim 21, wherein the aqueous solution contains 70-80% ethanol.
- 24. (Withdrawn) The method of claim 23, wherein the *Dioscorea* plant is *D. batatas* Decne, *D. alata* L., *D. pseudojaponica*, or *D. alata* L. var. *purpurea* (Roxb.) M. Pouch.
- 25. (Withdrawn) The method of claim 23, wherein the aqueous solution contains 75% ethanol.
- 26. (Withdrawn) The method of claim 25, wherein the *Dioscorea* plant is *D. batatas* Decne, *D. alata* L., *D. pseudojaponica*, or *D. alata* L. var. *purpurea* (Roxb.) M. Pouch.
- 27. (Withdrawn) The method of claim 20, wherein the bone marrow cells are CFU-GM, CFU-GEMM, or CFU-BFU-E cells.

Serial No.: 10/725,823

Filed: December 1, 2003

Page : 5 of 11

28. (Withdrawn) The method of claim 27, wherein the *Dioscorea* plant is *D. batatas* Decne, *D. alata* L., *D. pseudojaponica*, or *D. alata* L. var. *purpurea* (Roxb.) M. Pouch.

- 29. (Withdrawn) A method of enhancing proliferation of bone marrow or spleen cells, the method comprising administering to a subject in need thereof an effective amount of an extract from a tuber of a *Dioscorea* plant and an effective amount of a cytokine.
 - 30. (Withdrawn) The method of claim 29, wherein the cytokine is interleukin-2.
 - 31. (Withdrawn) The method of claim 30, wherein the *Dioscorea* plant is *D. batatas*.
- 32. (Withdrawn) The method of claim 31, wherein the extract is soluble in water and insoluble in an aqueous solution containing 65-90% ethanol between 0°C and 25°C.
 - 33. (Withdrawn) The method of claim 32, wherein the cytokine is interleukin-2.
 - 34. (Withdrawn) The method of claim 33, wherein the *Dioscorea* plant is *D. batatas*.
- 35. (Withdrawn) The method of claim 32, wherein the aqueous solution contains 70-80% ethanol.
 - 36. (Withdrawn) The method of claim 35, wherein the cytokine is interleukin-2.
- 37. (Withdrawn) The method of claim 36, wherein the system is a cell and the proteolytic fragment is secreted out of the cell.
- 38. (Withdrawn) The method of claim 35, wherein the aqueous solution contains 75% ethanol.

Serial No.: 10/725,823

Filed: December 1, 2003

Page : 6 of 11

39-40. (Cancelled).

- 41. (Withdrawn) The method of claim 28, wherein the bone marrow cells are CFU-GM, CFU-GEMM, or CFU-BFU-E cells.
 - 42. (Withdrawn) The method of claim 41, wherein the cytokine is interleukin-2.
 - 43. (Withdrawn) The method of claim 42, wherein the *Dioscorea* plant is *D. batatas*.
- 44. (New) The extract of claim 1, wherein the extract is prepared by a process comprising

extracting the tuber with water to obtain a water soluble fraction,

extracting the water soluble fraction with an aqueous solution contains 50% ethanol to obtain a first ethanol insoluble fraction, and

collecting the first ethanol insoluble fraction to give the extract.

45. (New) The extract of claim 44, wherein the process further comprises extracting the first ethanol insoluble fraction with an aqueous solution contains 75% ethanol to obtain a second ethanol insoluble fraction, and collecting the second ethanol insoluble fraction to give the extract.